

**ABSTRACT**

The present invention is directed to self-assembled compositions forming one dimensional structures that include one or more guest species and method for making such materials. The self-assembling molecules form a self-assembled gel structure that is birefringent and made up from one dimensional structures like nanoribbons with the guest species dispersed throughout the gel. The guest species include nanocrystals, molecules, or other nanometer sized compounds. A ribbon polymer-inorganic nanocrystal hybrid, and a method of creating a ribbon polymer-inorganic crystal hybrid as well as a method of ordering the same to form an ultraviolet lasing media is disclosed.

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